Directors of the National Gallery are not able, or willing, so to classify the pictures, either in relation to the schools, or in some other way, whereby the history of the art may be traced from its incipient state, to that of its full development; and which would assuredly conduce greatly to the advancement of the interest the public has already taken in an art which though old in itself is new to it.

Mr. H. Mathews stated that his intention in bringing this subject before the Association, had been to lead to some degree of attention to the works of ancient Schools of Painting, as exemplified in the National Gallery, and similar public institutions. To an architect the study would have an indirect, but none the less powerful influence on his work. He did not of course expect them to neglect their proper professional work for the study of paintings, but believed that some portion of time devoted to this object would not be valueless.

Mr. Ridge said it was obvious that ancient painters had not the advantage of the Archæological knowledge possessed at the present time. To do now as Venetian painters had done would be absurd. The Mediæval painters were not acquainted with the customs of sacred and classic times, so they dressed their characters in the garments of their own periods. This has given a special interest to their works. Modern painters had reason to be thankful for the labours of archæologists, for what would become of art if ancient historic personages had to be represented in the coats, hats, and trowsers of the present day?

Mr. J. D. Mathews said that the ecclesiastical architecture, both in Norfolk and Suffolk, was very different from that of the surrounding counties, and believed this was to be accounted for on the hypothesis of Dutch and German influence.

Mr. H. Mathews said, that it had to be remembered that all English monasteries used to be in constant communication with continental churches, and that other foreign influences besides Dutch, were exerted on English art.

The President in support of what Mr. Mathews had said, observed, that the frescoes in the Chapter House at Westminster, could never have been painted by English artists, being so greatly superior to known English work of the period. The study of ancient painting in England was much impeded by the absence of system in the classification of the pictures in our public galleries, and the want of hearty interest in art taken by the government and public generally, contrasting in this respect most unfavourably with continental nations.

WEST SIDE AND YONKER'S ELEVATED PATENT RAILWAY.

(With an engraving, Plate 4.)

The experimental half mile authorised by act of legislature last winter, is nearly completed, and its construction has become a matter of public observation. The line starts corner of Greenwich street and the Battery, and is now finished up to Rector-street, a distance of some 1500 feet. If the present experiment proves a success, the line will be continued this winter up Ninth Avenue to the Hudson River railroad depot, corner of Thirtieth-street, with the eventual idea of extension to the village of Yonkers, on the Hudson, *via* "King's Bridge." Should results warrant the further introduction of this system, a middle route up Broadway, as also an east side one as far as New Rochelle, on the Sound, are embodied in the schemes of the projectors.

The mode of construction is a very simple and elegant one, being unobstructive and open. The supporting principle, following the line of the curbstone, consist of *single* wrought iron columns, as made under the patent of the Phœnix Iron Company of Philadelphia, about fourteen feet high, with the segments spread out in a graceful curve, to which the cross-heads for supporting the rail-girders are attached. These are four-segment eight-inch columns, with a thickness of metal of three-eighths of an inch. They will be spaced twenty-five feet apart from centre to centre, as near as may, thus necessitating simple girders to span the interval. These girders are composed of eight-inch deck-beams in pairs, packed with a timber scantling, to which the rails are spiked, thus acting as an absorbent and cushion for the shocks of the travelling load. Beyond their fastening on the cross-heads of the columns, nothing more is required but simple stay-rods, to prevent the spreading of the rails and girders. The foundations are made stable by means of spreading out the segments at the base of the columns, in a similar manner as was noted above. A heavy casting, with necessary lugs and ribs upon it, is made to fit the under surface of the segments thus swelled out, to which they are securely bolted. This casting, by means of its broad, flat base, is in turn bolted to a very heavy under-casting secured to a well-bedded masonry pier ten feet deep, by means of long bolts running the whole length of the masonry, and firmly anchored therein. Between the rail-girders a small covered square trough, with a slot on its *upper* side, is placed, returning under the street in the axis of the roadway, and of course through the masonry piers, into which it is carefully built. This completes in the main what you may call, if you please, the inanimate construction.

The motive power will consist of stationary engines at *every* half mile under the side-walk, each one operating a large single drum six feet in diameter, ingeniously contrived to accommodate *two* ropes of contiguous sections. The sections being so short, steel-wire ropes of but one-half inch in diameter will be used, thus obviating what has always been considered an insurmountable difficulty. While on the subject of propulsion by an endless rope, it might be interesting, historically, to call attention to the fact, that English engineers and others had tried and given the system up as expensive and impracticable. It was adopted many years ago on the London and Blackwall Railway on a level track. Here a single rope was used in a length of several consecutive miles, requiring a diameter of something like five inches. A good speed was gotten up, but the clumsy character of the rope and the seeming impossibility of a satisfactory attachment and relief of the rope while in motion, caused an abandonment of the idea. In 1847 a plan was endorsed by the Mechanics' Institute, New York, of an endless belt elevated railway, and an experimental section was actually built encircling the Crystal Palace, but was destroyed by the same fire that brought that building to the ground. Most American engineers will remember Professor Gillespie's views on this style of railways, in his manual of "Roads and Railroads." In the line before us, the plan pursued, as above mentioned, requires a small rope, thus obviating one difficulty, the cars passing from one section to another by means of their own momentum. The gap thus caused is not over twenty feet, so that, at a speed of say ten miles an hour, the resistance to progression must be inappreciably small. At proper intervals the rope will be attached to what you may call small "universal trucks" about two feet long—universal in the sense that in no matter what position they may be put, friction rollers will always be presented to roll upon. Upside down or sideways, they will roll, in addition to which, the attachment of the rope is by means of swivel-joints, so that no kink or twist can arise. A strong finger, as it were, projects above the slot mentioned in connection with the middle box in which it runs. To this the car is attached. The construction of the cars become, perhaps, the vital point in this scheme; but so far as competent engineering judgment can discern, no mechanical device has been neglected that promised to insure success. Experimenting alone will tell the tale, and to that end New Yorkers are looking with anxious interest. The difficulty is just here—a rope is running say at a speed of ten miles an hour, with nothing visible but the little fingers of the trucks—to these fingers the cars must be attached or detached, without slacking the rope and without producing a shock on the car or its passengers; it must slow up in stopping, and gradually get headway in starting. It would hardly do to jump at once at full speed; it would rack everything to pieces. The slowing up after detachment will be a matter easily regulated by brakes; but how to store up sufficient momentum to get under headway before making fast, is the *experimentum crucis* beyond which all other difficulties are but trifles. The first experimental car will be about 30 feet long, with a long barrel placed immediately below the floor, running the full length of car, surrounded with a stiff spiral spring. Secondary springs of india rubber are attached to the spiral spring and the body of the car, running in an oblique direction. The shock of contact will be taken up on the springs, which force is stored up by another set of springs, to be used in *starting* the car for the next station. Attached to the spiral, and sliding on the barrel, the immediate attatchment is effected by means of a lever operated by the attendant in charge of the car.

Of course there must be an up and down track on either side of the way, with landing at proper intervals for passengers to get on or off. It is proposed to use the second floors of the buildings along the route, whenever needed, the entrances being the ordinary ones proper to any street building. The estimated cost is $250,000 per mile, which experience shows, on the portion